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EXAMINER

STACE, BRENT S

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/758,090	Applicant(s) GALLAGHER ET AL.	
	Examiner BRENT STACE	Art Unit 2161	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 July 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 January 2007 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Remarks

1. This communication is responsive to the amendment dated July 8th, 2008. In the amendment dated July 8th, 2008, Claims 1-22 are pending, no claims are amended, Claims 21 and 22 are new, and Claims 1 and 9-11 are the independent Claims. The examiner acknowledges that no new matter was introduced and the amended claims are supported by the specification. This action is made FINAL.

Response to Arguments

2. Applicant's arguments filed July 8th, 2008 with respect to Claims 1-22 have been fully considered but they are not persuasive.

Summary of Sadiq

Sadiq's invention is directed towards having a front end database being, for example, and object oriented database, while a legacy, backend database is a relational database (Sadiq, col. 4, lines 20-25). Updates are done to the front end database and the changes are eventually reflected in the legacy database (Sadiq, cols. 1-2, lines 40-12). A map is kept that denote where each object's attribute is stored in the legacy database (Sadiq, cols. 3-4, lines 66-6). Changes to objects are recorded in a data structure (Sadiq, col. 6, lines 13-16), and the data structure is used with the map to dynamically create SQL statement(s) to update the legacy database (Sadiq, col. 6, lines 31-44).

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3. As to Applicant's arguments with respect to Claims 1-20 for the prior art(s) allegedly not teaching or suggesting **"identifying a respective type of the item,"** the examiner respectfully disagrees. Sadiq, col. 2, lines 2-6 with Sadiq, col. 4, lines 13-15 was used to reject this limitation. To explain how Sadiq maps to this limitation, it must be explained how Sadiq maps to an "item" and what is done with Sadiq's "items." Sadiq, col. 2, lines 2-6 was used to map the claimed "item." The "item" can be seen as Sadiq's "object" or "shared object" (they appear to be used interchangeably). Sadiq, col. 2, lines 24-28 shows that a transaction is used to change the object (the object is changed/updated by its attributes changing/updating) (It should be noted that Sadiq, col.2, lines 24-28 also shows that every object has attributes.) As such, it appears that the object of Sadiq is equivalent to a record (or row) in a database while the attribute of the object is a column of data relating to the record/object (attributes are equivalent to columns by Sadiq, col. 4, lines 12-13). Sadiq also teaches that a persistence record of the shared object's state is then updated at the completion of the transaction that updates the object (Sadiq, col. 3, lines 61-65). Sadiq, col. 4, lines 13-15 shows that an attribute of the object has a "value type" that "refers to the data type of the attribute (e.g., integer, real, boolean, string, character)" for the object. As discussed above, every row/object has columns/attributes. As such, each row/object has multiple types since every attribute/column has a value type/data type (it is either integer, real, boolean, string, character). In other words, every item/object/row can be seen as having multiple types, since every item/object/row has multiple attributes and each attribute has an associated data type. The value type for each attribute is stored in a

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map (Sadiq, col. 4, lines 2-7). Since the value type for each attribute is stored in a map, it was identified. As such, a respective type (an attribute data type) of the item (object) is identified and “identifying a respective type of the item” is taught by Sadiq.

Alternatively, in another interpretation of how the prior art(s) maps to the claims, the type of the item could be the fact that the record/object (item) changes (and is put into the data structure 56 (Sadiq, col. 6, lines 13-16)). In other words, the type = changed data.

4. As to Applicant’s arguments with respect to Claims 1-20 for the prior art(s) allegedly not teaching or suggesting “**retrieving a set of attributes based on the type of the item and a partial structured query language statement corresponding to the attributes,**” the examiner respectfully disagrees. Sadiq, col. 6, lines 31-44 with Sadiq, col. 5, lines 14-21 with Sadiq, col. 4, lines 4-27 were used to reject this limitation. Sadiq, col. 6, lines 31-44 teaches that the data structure 56 (holding change attributes/value pairs) is used with the map to dynamically create SQL statement(s) to update a database. A set of attributes can be seen as being retrieved in that the data structure is consulted for its list of changes attributes (and their associated value). Also, the map is consulted for its attributes mapping to a database so it knows how to generate the SQL statement. Each of the attribute value pairs in the data structure has a value (Sadiq, col. 6, lines 13-16 with Sadiq, col. 5, lines 13-16). These are values for the objects that were updated, as discussed above, these correspond to a row in a relational legacy database for updating. As such, these values also have a value type/data type “(e.g., integer, real, boolean, string, character) (Sadiq, col. 4, lines 13-

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15).” These attributes/values are retrieved and placed into a generated SQL statement based on their value (that includes a type). Every attribute is paired up with the updating value type in the SQL statement. If they were not paired, the SQL statement would be defective in updating the legacy database and thus, Sadiq would not work and the principle idea of Sadiq would be broken. A template UPDATE SQL statement can be provided to show this fact of the SQL language. This can also be seen in the syntax the update SQL command where (for example) strings are surrounded with quotes and integers (for example) are not. The generated SQL command/statement would need to consider this during generation, thus considering the type of the value during generation.

In the alternative interpretation of how the prior art(s) maps to the claims discussed above, the mere fact that the data structure is traversed, reading the changed attributes/values to generated SQL statements, means that the a set of attributes (changed) is retrieved based on their type (the fact that they were changed).

As for the “**partial structured query language statement**” (an SQL statement) part of the limitation/argument above, this can be seen in Sadiq in that Sadiq first obtains the attribute for updating and it’s value (“pairs”) from the data structure (this is at least a part of an SQL statement (Sadiq, col. 5, lines 38-40)). Then, Sadiq obtains from the map other “information needed to generate the SQL statement” (Sadiq, col. 6, lines 31-44) (this is at least another part of an SQL statement). The remainder of the SQL statement would be a template like part of SQL statements (e.g. SELECT, UPDATE, ALTER TABLE, VALUES, WHERE, FROM etc. (see the previously provided MySQL

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reference for evidence of this). Since these SQL statement(s) are generated to update the attributes/columns of a database, they “correspond to the attributes.” As such, Sadiq, appears to teach “retrieving a set of attributes based on the type of the item and a partial structured query language statement corresponding to the attributes.”

5. The other claims argued merely because of a dependency on a previously argued claim(s) in the arguments presented to the examiner, filed July 8th, 2008, are moot in view of the examiner’s interpretation of the claims and art and are still considered rejected based on their respective rejections from at least a prior Office action (part(s) recited again below).

Response to Amendment

Claim Rejections - 35 USC § 112

6. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

7. Claim 21 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The examiner could not find support in the specification for the claimed limitation of “wherein the partial structured query language

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statement comprises an independently executable structured query language statement” found in new Claim 21.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

10. Claims 1-3, 9-11, 15, and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,032,153 (Sadiq et al.) in view of MySQL 5.0 Reference Manual <<http://dev.mysql.com/doc/refman/5.0/en/alter-table.html>> (MySQL).

For **Claim 1**, Sadiq teaches: “A method of dynamically preparing a structured query language statement, [Sadiq, col. 4, lines 45-50] said method comprising:

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- receiving a request that affects an item; [Sadiq, col. 2, lines 2-6 with Sadiq, col. 2, lines 24-28 with Sadiq, col. 3, lines 61-65]
- identifying a respective type of the item; [Sadiq, col. 2, lines 2-6 with Sadiq, col. 4, lines 13-15]
- retrieving a set of attributes [Sadiq, col. 6, lines 31-44] based on the type of the item [Sadiq, col. 6, lines 31-44 with Sadiq, col. 5, lines 14-21 with Sadiq, col. 4, lines 4-27] and a partial structured query language statement corresponding to the attributes, [Sadiq, col. 6, lines 31-44] wherein the partial structured query language statement comprises an action [Sadiq, col. 2, lines 2-6]
- ...preparing the structured query language statement for the item based on the set of attributes and the respective partial structured query language statement in response to the request” [Sadiq, col. 6, lines 31-35].

Sadiq (as modified by MySQL) discloses the above limitations but does not expressly teach:

- “...that affects the type of the item.”

With respect to Claim 1, an analogous art, MySQL, teaches:

- “...that affects the type of the item” [MySQL, p. 1].

It would have been obvious to one of ordinary skill in the art at the time of invention having the teachings of MySQL and Sadiq before him/her to combine MySQL with Sadiq because both inventions are directed towards SQL commands on a database.

MySQL's invention would have been expected to successfully work well with Sadiq's invention because both inventions use SQL. Sadiq discloses a method and system for maintaining persistence in a shared object system (title) comprising dynamic SQL statements that update a table. However, Sadiq does not expressly disclose affecting the type of an item. MySQL discloses a manual for the MySQL database system comprising the ALTER TABLE command.

It would have been obvious to one of ordinary skill in the art at the time of invention having the teachings of MySQL and Sadiq before him/her to take the ALTER TABLE command from MySQL and install it into the invention of Sadiq, thereby offering the obvious advantage of changing the structure of an existing table (updating/changing more than just values and records of the database of Sadiq).

Claim 2 can be mapped to Sadiq (as modified by MySQL) as follows: "The method of claim 1, wherein retrieving the set of attributes and the respective partial structured query language statement comprises retrieving a set of parameters that indicate a data structure for the item" [Sadiq, col. 4, lines 4-27].

Claim 3 can be mapped to Sadiq (as modified by MySQL) as follows: "The method of claim 1, wherein retrieving the set of attributes and the respective partial structured query language statement comprises retrieving a set of references for the structured query language statement" [Sadiq, col. 4, lines 4-27].

Claim 9 encompasses substantially the same scope of the invention as that of Claim 1, in addition to an apparatus and some means for performing the method steps

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of Claim 1. Therefore, Claim 9 is rejected for the same reasons as stated above with respect to Claim 1.

Claim 10 encompasses substantially the same scope of the invention as that of Claim 1, in addition to computer readable medium and some program code for performing the method steps of Claim 1. Therefore, Claim 10 is rejected for the same reasons as stated above with respect to Claim 1.

For **Claim 11**, Sadiq teaches: "A system that dynamically prepares a structured query language statement, [Sadiq, col. 4, lines 45-50] said system comprising:

- a database that stores a plurality of items in a first table [Sadiq, col. 4, lines 4-27 with Sadiq, col. 3, lines 25-29] and stores information indicating attributes of each type of item in a second table; [Sadiq, col. 4, lines 4-27 with Sadiq, col. 3, lines 25-29] and
- a processor [Sadiq, col. 3, lines 25-29 with Fig. 1, detail 24] configured by a set of program code to receive a request that affects an item stored in the first table of the database, [Sadiq, col. 2, lines 2-6 with Sadiq, col. 2, lines 24-28 with Sadiq, col. 3, lines 61-65 with Sadiq, col. 4, lines 4-27] identify a type of the item based on information in the first table, [Sadiq, col. 4, lines 13-15] retrieve attributes for the item from the second table based on the item's type, [Sadiq, col. 6, lines 31-44 with Sadiq, col. 5, lines 14-21 with Sadiq, col. 4, lines 4-27] determine a partial structured query language statement based on parsing the attributes, [Sadiq, col. 6, lines 31-44] and prepare the structured query language statement for the item based on the retrieved attributes and the respective partial

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structured query language statement in response to the request, [Sadiq, col. 6, lines 31-44] wherein the partial structured query language statement comprises an action..." [Sadiq, col. 2, lines 2-6].

Sadiq (as modified by MySQL) discloses the above limitations but does not expressly teach:

- "...that affects the type of the item."

With respect to Claim 11, an analogous art, MySQL, teaches:

- "...that affects the type of the item" [MySQL, p. 1].

It would have been obvious to one of ordinary skill in the art at the time of invention having the teachings of MySQL and Sadiq before him/her to combine MySQL with Sadiq because both inventions are directed towards SQL commands on a database.

MySQL's invention would have been expected to successfully work well with Sadiq's invention because both inventions use SQL. Sadiq discloses a method and system for maintaining persistence in a shared object system (title) comprising dynamic SQL statements that update a table. However, Sadiq does not expressly disclose affecting the type of an item. MySQL discloses a manual for the MySQL database system comprising the ALTER TABLE command.

It would have been obvious to one of ordinary skill in the art at the time of invention having the teachings of MySQL and Sadiq before him/her to take the ALTER TABLE command from MySQL and install it into the invention of Sadiq, thereby offering

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the obvious advantage of changing the structure of an existing table (updating/changing more than just values and records of the database of Sadiq).

Claim 15 can be mapped to Sadiq (as modified by MySQL) as follows: “The system of claim 11, wherein the set of program code comprises a set of embedded structured query language statements for preparing the structured query language statement for the item” [Sadiq, col. 6, lines 31-45].

Claim 22 can be mapped to Sadiq (as modified by MySQL) as follows: “The method of claim 1, wherein the type of the item, which specifies a data structure of the item, comprises a combination of attributes associated with the item” [Sadiq, col. 2, lines 2-6 with Sadiq, col. 2, lines 24-28 with Sadiq, col. 4, lines 12-15].

11. Claims 4 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,032,153 (Sadiq et al.) in view of MySQL 5.0 Reference Manual <<http://dev.mysql.com/doc/refman/5.0/en/alter-table.html>> (MySQL), further in view of U.S. Patent Application Publication No. 2003/0093433 (Seaman et al.).

For **Claim 4**, Sadiq (as modified by MySQL) teaches: “The method of claim 1, wherein retrieving the set of attributes and the respective partial structured query language statement comprises.”

Sadiq (as modified by MySQL) discloses the above limitation but does not expressly teach: “retrieving at least a portion of an insert statement.”

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With respect to Claim 4, an analogous art, Seaman, teaches: “retrieving at least a portion of an insert statement” [Seaman, paragraph [0144]].

It would have been obvious to one of ordinary skill in the art at the time of invention having the teachings of Seaman and Sadiq (as modified by MySQL) before him/her to combine Seaman with Sadiq (as modified by MySQL) because both inventions are directed towards dynamically generating queries/SQL.

Seaman’s invention would have been expected to successfully work well with Sadiq (as modified by MySQL)’s invention because both inventions use databases to query. Sadiq discloses a method and system for maintaining persistence in a shared object system comprising dynamically generating update queries. However, Sadiq (as modified by MySQL) does not expressly disclose dynamically generating insert queries. Seaman discloses a method and system for software application development and customizable runtime environment comprising dynamically generating insert queries.

It would have been obvious to one of ordinary skill in the art at the time of invention having the teachings of Seaman and Sadiq (as modified by MySQL) before him/her to take the dynamic generation of insert queries from Seaman and install it into the invention of Sadiq (as modified by MySQL), thereby offering the obvious advantage of being able not only to update the database (modify) but update by adding (inserting) new records offering the ability to add new records with Sadiq (as modified by MySQL)’s invention.

For **Claim 20**, Sadiq (as modified by MySQL) teaches: “The system of claim 11, wherein the attributes stored in the second table include.”

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Sadiq (as modified by MySQL) discloses the above limitation but does not expressly teach:

- “a structured query language statement that inserts a new item into the first table.”

With respect to Claim 20, an analogous art, Seaman, teaches:

- “a structured query language statement that inserts a new item into the first table” [Seaman, paragraph [0144] with Sadiq, col. 6, lines 31-45 with Sadiq, col. 4, lines 4-27].

It would have been obvious to one of ordinary skill in the art at the time of invention having the teachings of Seaman and Sadiq (as modified by MySQL) before him/her to combine Seaman with Sadiq (as modified by MySQL) because both inventions are directed towards dynamically generating queries/SQL.

Seaman's invention would have been expected to successfully work well with Sadiq (as modified by MySQL)'s invention because both inventions use databases to query. Sadiq (as modified by MySQL) discloses a method and system for maintaining persistence in a shared object system comprising dynamically generating update queries. However, Sadiq (as modified by MySQL) does not expressly disclose dynamically generating insert queries. Seaman discloses a method and system for software application development and customizable runtime environment comprising dynamically generating insert queries.

It would have been obvious to one of ordinary skill in the art at the time of invention having the teachings of Seaman and Sadiq (as modified by MySQL) before

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him/her to take the dynamic generation of insert queries from Seaman and install it into the invention of Sadiq (as modified by MySQL), thereby offering the obvious advantage of being able not only to update the database (modify) but update by adding (inserting) new records offering the ability to add new records with Sadiq (as modified by MySQL)'s invention.

12. Claims 5 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,032,153 (Sadiq et al.) in view of MySQL 5.0 Reference Manual <<http://dev.mysql.com/doc/refman/5.0/en/alter-table.html>> (MySQL), further in view of U.S. Patent No. 5,950,188 (Wildermuth).

For **Claim 5**, Sadiq (as modified by MySQL) teaches: "The method of claim 1, wherein retrieving the set of attributes and the respective partial structured query language statement comprises."

Sadiq (as modified by MySQL) discloses the above limitation but does not expressly teach: "retrieving information that indicates access rights for the structured query language statement."

With respect to Claim 5, an analogous art, Wildermuth, teaches: "retrieving information that indicates access rights for the structured query language statement" [Wildermuth, col. 7, lines 1-21 with Wildermuth, cols. 7-8, lines 61-3].

It would have been obvious to one of ordinary skill in the art at the time of invention having the teachings of Wildermuth and Sadiq (as modified by MySQL) before

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him/her to combine Wildermuth with Sadiq (as modified by MySQL) because both inventions are directed towards issuing commands/queries to databases.

Wildermuth's invention would have been expected to successfully work well with Sadiq (as modified by MySQL)'s invention because both inventions use databases using SQL. Sadiq (as modified by MySQL) discloses a method and system for maintaining persistence in a shared object system comprising SQL. However, Sadiq (as modified by MySQL) does not expressly disclose retrieving information that indicates access rights for the SQL statement. Wildermuth discloses a database system with methods for executing system-created internal SQL command statements comprising a security flag indicative of access rights for the structured query language statements.

It would have been obvious to one of ordinary skill in the art at the time of invention having the teachings of Wildermuth and Sadiq (as modified by MySQL) before him/her to take the security feature from Wildermuth and install it into the invention of Sadiq (as modified by MySQL), thereby offering the obvious advantage of having a more secure system where "dangerous" system functions are not exposed to inappropriate users of the system (Wildermuth, abstract, and col. 7, lines 1-21).

For **Claim 19**, Sadiq (as modified by MySQL) teaches: "The system of claim 11, wherein the attributes stored in the second table includes."

Sadiq (as modified by MySQL) discloses the above limitation but does not expressly teach: "information indicating access rights for each type of item."

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With respect to Claim 19, an analogous art, Wildermuth, teaches: “information indicating access rights for each type of item” [Wildermuth, col. 7, lines 1-21 with Wildermuth, cols. 7-8, lines 61-3].

It would have been obvious to one of ordinary skill in the art at the time of invention having the teachings of Wildermuth and Sadiq (as modified by MySQL) before him/her to combine Wildermuth with Sadiq (as modified by MySQL) because both inventions are directed towards issuing commands/queries to databases.

Wildermuth’s invention would have been expected to successfully work well with Sadiq (as modified by MySQL)’s invention because both inventions use databases using SQL. Sadiq (as modified by MySQL) discloses a method and system for maintaining persistence in a shared object system comprising SQL. However, Sadiq (as modified by MySQL) does not expressly disclose retrieving information that indicates access rights for the SQL statement. Wildermuth discloses a database system with methods for executing system-created internal SQL command statements comprising a security flag indicative of access rights for the structured query language statements.

It would have been obvious to one of ordinary skill in the art at the time of invention having the teachings of Wildermuth and Sadiq (as modified by MySQL) before him/her to take the security feature from Wildermuth and install it into the invention of Sadiq (as modified by MySQL), thereby offering the obvious advantage of having a more secure system where “dangerous” system functions are not exposed to inappropriate users of the system (Wildermuth, abstract, and col. 7, lines 1-21).

13. Claim 6 and 12-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,032,153 (Sadiq et al.) in view of MySQL 5.0 Reference Manual <<http://dev.mysql.com/doc/refman/5.0/en/alter-table.html>> (MySQL), further in view of U.S. Patent No. 6,219,676 (Reiner).

For **Claim 6**, Sadiq (as modified by MySQL) teaches: “The method of claim 1, wherein retrieving the set of attributes and the respective partial structured query language statement comprises.”

Sadiq (as modified by MySQL) discloses the above limitation but does not expressly teach:

- “...determining a timestamp for the set of attributes and the respective partial structured query language statement; and
- selectively retrieving the set of attributes and the respective partial structured query language statement from a cache based on the timestamp.”

With respect to Claim 6, an analogous art, Reiner, teaches:

- “...determining a timestamp for the set of attributes and the respective partial structured query language statement; [Reiner, col. 7, lines 43-64 with Reiner, col. 9, lines 27-45] and
- selectively retrieving the set of attributes and the respective partial structured query language statement from a cache based on the timestamp” [Reiner, col. 7, lines 43-64 with Reiner, col. 9, lines 27-45].

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It would have been obvious to one of ordinary skill in the art at the time of invention having the teachings of Reiner and Sadiq (as modified by MySQL) before him/her to combine Reiner with Sadiq because both inventions are directed towards accessing data.

Reiner's invention would have been expected to successfully work well with Sadiq (as modified by MySQL)'s invention because both inventions use data structures to access data. Sadiq (as modified by MySQL) discloses a method and system for maintaining persistence in a shared object system comprising SQL. However, Sadiq (as modified by MySQL) does not expressly disclose the cache data structure or timestamps being used to access data. Reiner discloses a methodology for cache coherency of web server data comprising a cache with timestamps for accessing data.

It would have been obvious to one of ordinary skill in the art at the time of invention having the teachings of Reiner and Sadiq (as modified by MySQL) before him/her to take the cache data structure from Reiner and install it into the invention of Sadiq (as modified by MySQL), thereby offering the obvious advantage of achieving the fast lookup times (thereby fast data retrieval) gained by using a cache data structure.

For **Claim 12**, Sadiq (as modified by MySQL) teaches: "The system of claim 11, further comprising."

Sadiq (as modified by MySQL) discloses the above limitation but does not expressly teach: "a cache that stores a copy of at least a portion of the second table."

With respect to Claim 12, an analogous art, Reiner, teaches:

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- “a cache that stores a copy of at least a portion of the second table” [Reiner, col. 7, lines 43-64 with Reiner, col. 9, lines 27-45].

It would have been obvious to one of ordinary skill in the art at the time of invention having the teachings of Reiner and Sadiq (as modified by MySQL) before him/her to combine Reiner with Sadiq (as modified by MySQL) because both inventions are directed towards accessing data.

Reiner's invention would have been expected to successfully work well with Sadiq (as modified by MySQL)'s invention because both inventions use data structures to access data. Sadiq (as modified by MySQL) discloses a method and system for maintaining persistence in a shared object system comprising SQL. However, Sadiq (as modified by MySQL) does not expressly disclose the cache data structure or timestamps being used to access data. Reiner discloses a methodology for cache coherency of web server data comprising a cache with timestamps for accessing data.

It would have been obvious to one of ordinary skill in the art at the time of invention having the teachings of Reiner and Sadiq (as modified by MySQL) before him/her to take the cache data structure from Reiner and install it into the invention of Sadiq (as modified by MySQL), thereby offering the obvious advantage of achieving the fast lookup times (thereby fast data retrieval) gained by using a cache data structure.

Claim 13 can be mapped to Sadiq (as modified by MySQL and Reiner) as follows: “The system of claim 12, wherein the second table includes a timestamp for each row in the second table” [Reiner, col. 7, lines 43-64 with Reiner, col. 9, lines 27-45].

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Claim 14 can be mapped to Sadiq (as modified by MySQL and Reiner) as follows: “The system of claim 13, wherein the processor is configured to selectively retrieve information from the cache or the second table based on the timestamp” [Reiner, col. 7, lines 43-64 with Reiner, col. 9, lines 27-45].

14. Claims 7, 8, and 16-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,032,153 (Sadiq et al.) in view of MySQL 5.0 Reference Manual <<http://dev.mysql.com/doc/refman/5.0/en/alter-table.html>> (MySQL), further in view of U.S. Patent No. 5,742,806 (Reiner et al.).

For **Claim 7**, Sadiq (as modified by MySQL) teaches: “The method of claim 1, wherein preparing the structured query language statement comprises.”

Sadiq (as modified by MySQL) discloses the above limitation but does not expressly teach: “opening a first set of cursors for the structured query language statement.”

With respect to Claim 7, an analogous art, Reiner, teaches: “opening a first set of cursors for the structured query language statement” [Reiner, cols. 89-90, lines 65-5 e.g. “root cursor”].

It would have been obvious to one of ordinary skill in the art at the time of invention having the teachings of Reiner and Sadiq (as modified by MySQL) before him/her to combine Reiner with Sadiq (as modified by MySQL) because both inventions are directed towards accessing data in databases using queries.

Reiner's invention would have been expected to successfully work well with Sadiq (as modified by MySQL)'s invention because both inventions use databases and queries. Sadiq (as modified by MySQL) discloses a method and system for maintaining persistence in a shared object system comprising SQL. However, Sadiq (as modified by MySQL) does not expressly disclose cursors. Reiner discloses an apparatus and method for decomposing database queries for database management system including multiprocessor digital data processing system comprising cursors with queries.

It would have been obvious to one of ordinary skill in the art at the time of invention having the teachings of Reiner and Sadiq (as modified by MySQL) before him/her to take the cursors from Reiner and install it into the invention of Sadiq (as modified by MySQL), thereby offering the obvious advantage of doing parallel operations to speed up the system of Sadiq (as modified by MySQL).

Claim 8 can be mapped to Sadiq (as modified by MySQL and Reiner) as follows: "The method of claim 7, further comprising opening a second set of cursors when all of the cursors in the first set have been opened" [Reiner, cols. 89-90, lines 65-5 e.g. "subcursors"].

For **Claim 16**, Sadiq (as modified by MySQL) teaches: "The system of claim 15, further comprising a set of files that include."

Sadiq (as modified by MySQL) discloses the above limitations but does not expressly teach: "a plurality of cursors for the embedded structured query language statements."

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With respect to Claim 16, an analogous art, Reiner, teaches: “a plurality of cursors for the embedded structured query language statements” [Reiner, cols. 89-90, lines 65-5].

It would have been obvious to one of ordinary skill in the art at the time of invention having the teachings of Reiner and Sadiq (as modified by MySQL) before him/her to combine Reiner with Sadiq (as modified by MySQL) because both inventions are directed towards accessing data in databases using queries.

Reiner’s invention would have been expected to successfully work well with Sadiq (as modified by MySQL)’s invention because both inventions use databases and queries. Sadiq (as modified by MySQL) discloses a method and system for maintaining persistence in a shared object system comprising SQL. However, Sadiq (as modified by MySQL) does not expressly disclose cursors. Reiner discloses an apparatus and method for decomposing database queries for database management system including multiprocessor digital data processing system comprising cursors with queries.

It would have been obvious to one of ordinary skill in the art at the time of invention having the teachings of Reiner and Sadiq (as modified by MySQL) before him/her to take the cursors from Reiner and install it into the invention of Sadiq (as modified by MySQL), thereby offering the obvious advantage of doing parallel operations to speed up the system of Sadiq (as modified by MySQL).

Claim 17 can be mapped to Sadiq (as modified by MySQL and Reiner) as follows: “The system of claim 16, wherein the set of files comprise a first package of

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cursors that are opened by the embedded structured query language statements”

[Reiner, cols. 89-90, lines 65-5].

Claim 18 can be mapped to Sadiq (as modified by MySQL and Reiner) as follows: “The system of claim 17, wherein the set of files further comprises a second package of cursors that are opened by the embedded structured query language statements when all of the cursors in the first package have been opened” [Reiner, cols. 89-90, lines 65-5].

15. Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,032,153 (Sadiq et al.) in view of MySQL 5.0 Reference Manual <<http://dev.mysql.com/doc/refman/5.0/en/alter-table.html>> (MySQL), further in view of U.S. Patent No. 5,761,657 (Hoang).

For **Claim 21**, Sadiq (as modified by MySQL) teaches: “The method of claim 1.”

Sadiq (as modified by MySQL) discloses the above limitation but does not expressly teach: “wherein the partial structured query language statement comprises an independently executable structured query language statement.”

With respect to Claim 21, an analogous art, Hoang, teaches: “wherein the partial structured query language statement comprises an independently executable structured query language statement” [Hoang, col. 1, lines 19-38 with Sadiq, col. 6, lines 31-44 with Sadiq, col. 5, lines 32-34 with Sadiq, col. 2, lines 2-6].

It would have been obvious to one of ordinary skill in the art at the time of invention having the teachings of Hoang and Sadiq (as modified by MySQL) before

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him/her to combine Hoang with Sadiq (as modified by MySQL) because both inventions are directed towards querying databases.

Hoang's invention would have been expected to successfully work well with Sadiq (as modified by MySQL)'s invention because both inventions use the SQL query language and a database. Sadiq (as modified by MySQL) discloses a method and system for maintaining persistence in a shared object system (title) comprising queries to a database and a partial structured query language statement. However, Sadiq (as modified by MySQL) does not expressly disclose that the partial structured query language statement is independently executable. Hoang discloses global optimization of correlated subqueries and exists predicates comprising nested logical operations on databases using SQL.

It would have been obvious to one of ordinary skill in the art at the time of invention having the teachings of Hoang and Sadiq (as modified by MySQL) before him/her to take the optimization subqueries from Hoang and install it into the invention of Sadiq (as modified by MySQL), thereby offering the obvious advantage of optimizing the dynamic queries created by Sadiq. Subqueries offer the obvious advantage of embedding at least a query inside a parent query so that results can be used by the parent.

16. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

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§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Conclusion

17. Any prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Applicant is advised that, although not used in the rejections above, prior art cited on any PTO-892 form and not relied upon is considered materially relevant to the applicant's claimed invention and/or portions of the claimed invention.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to BRENT STACE whose telephone number is (571)272-8372 and fax number is 571-273-8372. The examiner can normally be reached on M-F 9am-5:30pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Apu Mofiz can be reached on 571-272-4080. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/B. S./
Examiner, Art Unit 2161

/Apu M Mofiz/
Supervisory Patent Examiner, Art Unit 2161